V.H.F. POWER DOUBLE TETRODE

QQV04-15

V.H.F. double tetrode rated for a maximum anode dissipation of 7.5W per section and suitable for use at frequencies up to 250Mc/s.

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS — TRANSMITTING VALVES included in this volume of the handbook.

CATHODE Indirectly heated for series or parallel operation.

	Series	Parallel	
V_h	12.6	6.3	V
I_h	0.8	1.6	A

MOUNTING POSITION Any

CAPACITANCES (each section)

c_{a-g1}	<0.07	pF
c_{in}	8.0	pF
c_{out}	3.8	pF
* c_{g2-k} (approx.)	65	pF

*Including capacitor connected internally between g_2 and k.

CHARACTERISTICS (each section, measured at $I_a = 30$mA)

g_m	3.0	mA/V
μ_{g1-g2}	6.5	

COOLING Natural cooling

Maximum bulb temperature	200	°C
Maximum temperature of seals	180	°C

OPERATING CONDITIONS AS PUSH-PULL R.F. POWER AMPLIFIER OR OSCILLATOR (CLASS "C" TELEGRAPHY OR F.M. TELEPHONY)

Limiting values (absolute ratings)

V_a max. (f = 200Mc/s)	750	V
V_a max. (f = 250Mc/s)	670	V
p_a max.	2×7.5	W
V_{g2} max.	250	V
p_{g2} max.	5.0	W
I_k max.	2×55	mA
$i_{k(pk)}$ max.	2×260	mA
V_{g1} max.	−175	V
I_{g1} max.	2×3.0	mA
R_{g1-k} max. (each section)	50	kΩ
V_{h-k} max.	100	V

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Typical operating conditions

f	200	200	250	Mc/s
V_a	500	750	500	V
V_{g2}	200	200	200	V
V_{g1}	−65	−65	−65	V
I_a	2×36	2×24	2×32	mA
I_{g2}	14	15	12	mA
I_{g1} (approx.)	2×1.3	2×1.4	2×0.9	mA
$v_{in(g1-g1)pk}$	150	150	140	V
$P_{load(driver)}$	500	600	800	mW
p_a	2×5.0	2×5.0	2×7.0	W
P_{out}	26	26	18	W
η	72	72	56	%
P_{load}	21	21	14.5	W

OPERATING CONDITIONS AS ANODE AND SCREEN-GRID MODULATED PUSH-PULL R.F. POWER AMPLIFIER (CLASS "C" TELEPHONY)

Limiting values (carrier condition for modulation factor of 1) (absolute ratings)

V_a max. (f = 200Mc/s)	600	V
V_a max. (f = 250Mc/s)	530	V
p_a max.	2×5.0	W
V_{g2} max.	250	V
p_{g2} max.	3.4	W
I_k max.	2×50	mA
$i_{k(pk)}$ max.	2×400	mA
V_{g1} max.	−175	V
I_{g1} max.	2×3.0	mA
R_{g1-k} max. (each section)	50	kΩ
V_{h-k} max.	100	V

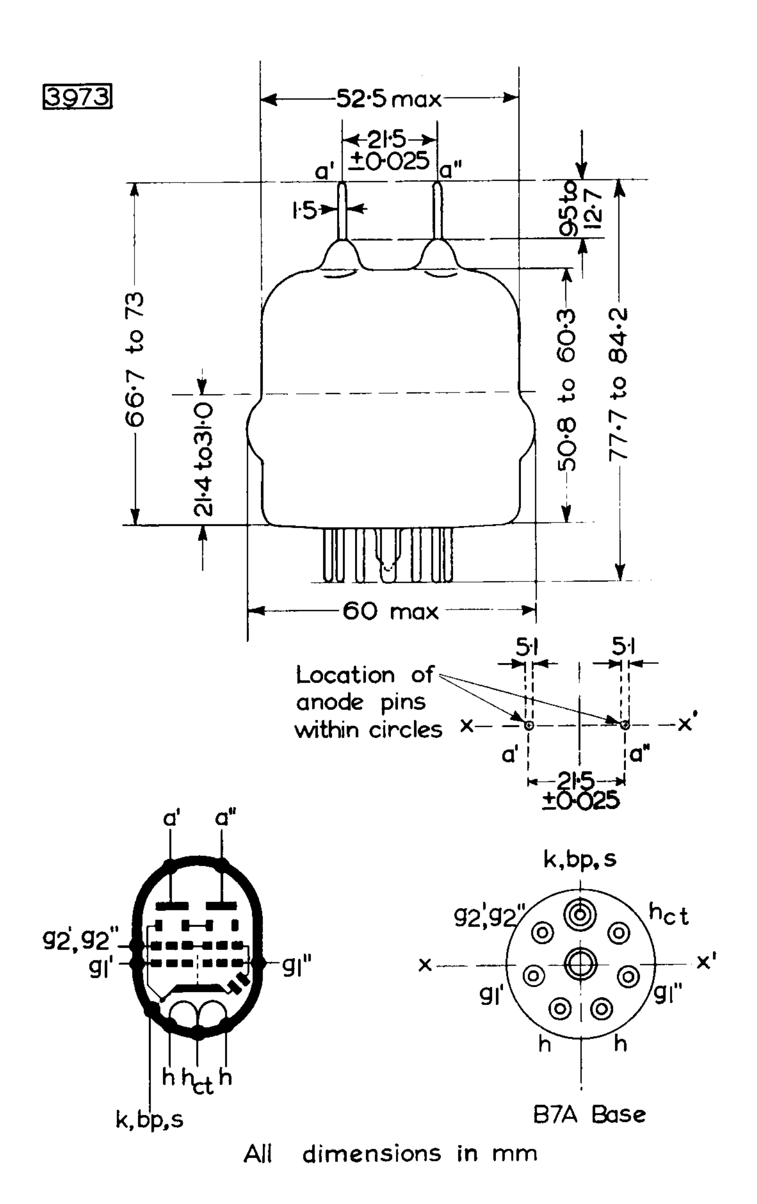
Typical operating conditions

f	200	200	Mc/s
V_a	425	600	V
V_{g2}	200	200	V
V_{g1}	−60	−65	V
I_a	2×26	2×18	mA
I_{g2}	16	16	mA
I_{g1} (approx.)	2×1.2	2×1.3	mA
$v_{in(g1-g1)}$ pk	140	150	V
$P_{load(driver)}$	500	500	mW
p_a	2×3.0	2×2.3	W
P_{out}	16	17	W
η	72	79	%
P_{load}	13	14	W
For 100% modulation			
P_{mod}	12.5	12.5	W
$v_{g2(pk)}$	140	140	V

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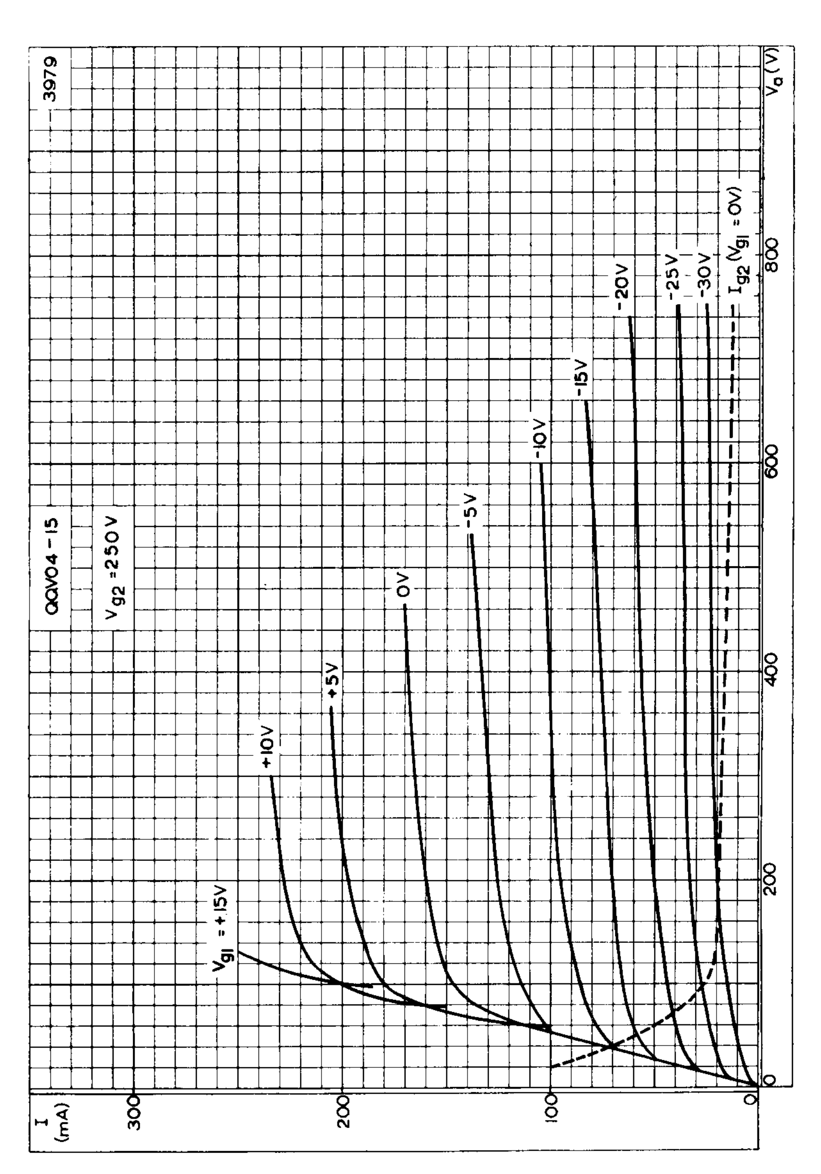


All dimensions in mm

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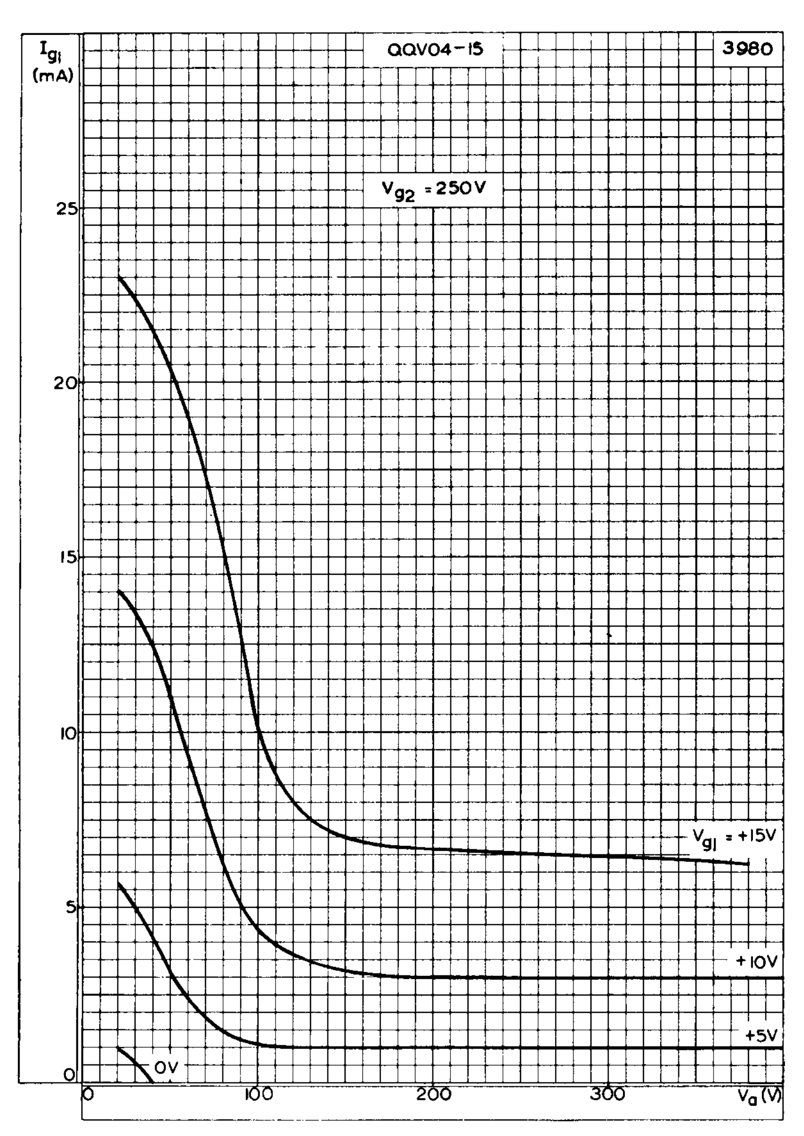


ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE

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CONTROL-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE